

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor, or polymeric intrinsically conductive properties, wherein a functional pattern of said at least one moiety is provided on said receiving medium, and wherein a pH-indicator pattern is provided when said fountain comprises at least one moiety having at least pH-indicating properties.

2. (Previously Presented) The process according to claim 1, wherein said moiety having at least pH-indicating whitening, fluorescent, phosphorescent, X-ray phosphor, or polymeric intrinsically conductive properties is an intrinsically conductive polymer.

3. (Previously Presented) The process according to claim 2, wherein said intrinsically conductive polymer is selected from the group consisting of polyanilines, polyaniline derivatives, polypyrroles, polypyrrole derivatives, polythiophenes and polythiophene derivatives.

4. (Previously Presented) The process according to claim 2, wherein said intrinsically conductive polymer is a polymer or copolymer of a 3,4-dialkoxythiophene in which the two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

5. (Previously Presented) The process according to claim 2, wherein said intrinsically conductive polymer is selected from the group consisting of: homopolymers of (3,4-methylenedioxy-thiophene), (3,4-methylenedioxythiophene) derivatives, (3,4-ethylenedioxythiophene), (3,4-ethylenedioxythiophene) derivatives, (3,4-propylenedioxythiophene), (3,4-(propylenedioxythiophene) derivatives, (3,4-

butylenedioxythiophene) and (3,4-butylenedioxythiophene) derivatives and copolymers thereof.

6. (Previously Presented) The process according to claim 1, wherein said aqueous fountain medium further comprises a polyanion.

7. (Previously Presented) The process according to claim 6, wherein said polyanion is poly(styrenesulfonate).

8. (Previously Presented) The process according to claim 1, wherein said aqueous fountain medium further comprises a di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound.

9. (Previously Presented) The process according to claim 8, wherein said di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound is selected from the group consisting of 1,2-propandiol, propylene glycol, diethylene glycol, N-methyl pyrrolidinone and di(ethylene glycol)ethyl ether acetate.

10. (Currently Amended) The process according to claim 8, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of 100°C to 250°C .

11. (Previously Presented) The process according to claim 1, wherein said aqueous fountain medium further contains an aprotic organic compound with a dielectric constant ≥ 15 .

12. (Previously Presented) The process according to claim 11, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of $\leq 150^{\circ}\text{C}$.

13. (Previously Presented) The process according to claim 1, wherein said fountain further comprises a non-ionic or anionic surfactant.

14. (Previously Presented) The process according to claim 1, wherein said fountain has a viscosity at 25°C after stirring to constant viscosity of 30 mPa.s as measured according to DIN 53211.

15. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least coloring, pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor or polymeric intrinsically conductive properties, wherein said fountain comprises a dye and/or a pigment and wherein a functional pattern of said dye and/or pigment is provided on said receiving medium, and wherein such that the color tone of the ink and color tone of the aqueous fountain ~~medium~~ cannot be distinguished by the human eye when applied onto [[a]] said receiving medium.

16. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least coloring, pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor or polymeric intrinsically conductive properties, wherein said fountain comprises a dye and/or a pigment, wherein a functional pattern of said dye and/or pigment is provided on said receiving medium, and wherein such that the color tone of the ink and color tone of the aqueous fountain ~~medium~~ cannot be distinguished by the human eye when applied onto [[a]] said receiving medium, and wherein a pH-indicator pattern is provided when said fountain comprises at least one moiety having at least pH-indicating properties.

17. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a

printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor, or organic conductive or organo-metallic conductive properties, wherein a functional pattern of said at least one moiety is provided on said receiving medium, and wherein a pH-indicator pattern is provided when said fountain comprises at least one moiety having at least pH-indicating properties.

18. (Currently Amended) A [The] process according to claim 17 for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water, said fountain further comprising as a solution or a dispersion in said fountain medium at least one moiety having at least pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor, or organic conductive or organo-metallic conductive properties, wherein said moiety having at least pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor, or organic conductive or organo-metallic conductive properties is an intrinsically conductive polymer.

19. (Previously Presented) The process according to claim 18, wherein said intrinsically conductive polymer is selected from the group consisting of polyanilines, polyaniline derivatives, polypyrroles, polypyrrole derivatives, polythiophenes and polythiophene derivatives.

20. (Previously Presented) The process according to claim 18, wherein said intrinsically conductive polymer is a polymer or copolymer of a 3,4-dialkoxythiophene in which the two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

21. (Previously Presented) The process according to claim 18, wherein said intrinsically conductive polymer is selected from the group consisting of: homopolymers of (3,4-methylenedioxy-thiophene), (3,4-methylenedioxythiophene) derivatives, (3,4-ethylenedioxy-thiophene), (3,4-ethylenedioxythiophene) derivatives, (3,4-propylenedioxythiophene), (3,4-(propylenedioxythiophene) derivatives, (3,4-butylenedioxythiophene) and (3,4-butylene-dioxythiophene) derivatives and copolymers thereof.

22. (Previously Presented) The process according to claim 17, wherein said aqueous fountain medium further comprises a polyanion.

23. (Previously Presented) The process according to claim 22, wherein said polyanion is poly(styrenesulfonate).

24. (Previously Presented) The process according to claim 17, wherein said aqueous fountain medium further contains a di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound.

25. (Previously Presented) The process according to claim 24, wherein said di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound is selected from the group consisting of 1,2-propandiol, propylene glycol, diethylene glycol, N-methyl pyrrolidinone and di(ethylene glycol)ethyl ether acetate.

26. (Previously Presented) The process according to claim 24, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of 100 to 250°C.

27. (Previously Presented) The process according to claim 17, wherein said aqueous fountain medium further contains an aprotic organic compound with a dielectric constant ≥ 15 .

28. (Previously Presented) The process according to claim 27, wherein said process

further comprises heating said receiving medium within 10 minutes after printing to a temperature of $\leq 150^{\circ}\text{C}$.

29. (Previously Presented) The process according to claim 17, wherein said fountain further comprises a non-ionic or anionic surfactant.

30. (Previously Presented) The process according to claim 17, wherein said fountain has a viscosity at 25°C after stirring to constant viscosity of 30 mPa.s as measured according to DIN 53211.

31. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium which comprises water, said fountain further comprising as a solution or a dispersion in said fountain medium at least one moiety which is an intrinsically conductive polymer, wherein a functional pattern of said intrinsically conductive polymer is provided on said receiving medium when said fountain is transferred to said receiving medium.

32. (Previously Presented) The process according to claim 31, wherein said intrinsically conductive polymer is selected from the group consisting of polyanilines, polyaniline derivatives, polypyrroles, polypyrrole derivatives, polythiophenes and polythiophene derivatives.

33. (Previously Presented) The process according to claim 31, wherein said intrinsically conductive polymer is a polymer or copolymer of a 3,4-dialkoxythiophene in which the two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

34. (Previously Presented) The process according to claim 31, wherein said intrinsically conductive polymer is selected from the group consisting of: homopolymers of (3,4-methylenedioxy-thiophene), (3,4-methylenedioxythiophene) derivatives, (3,4-ethylenedioxythiophene), (3,4-ethylenedioxythiophene) derivatives, (3,4-propylenedioxythiophene), (3,4-(propylenedioxythiophene) derivatives, (3,4-

butylenedioxythiophene) and (3,4-butylenedioxythiophene) derivatives and copolymers thereof.

35. (Previously Presented) The process according to claim 31, wherein said aqueous fountain medium further comprises a polyanion.

36. (Previously Presented) The process according to claim 35, wherein said polyanion is poly(styrenesulfonate).

37. (Previously Presented) The process according to claim 31, wherein said aqueous fountain medium further comprises a di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound.

38. (Previously Presented) The process according to claim 37, wherein said di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound is selected from the group consisting of 1,2-propandiol, propylene glycol, diethylene glycol, N-methyl pyrrolidinone and di(ethylene glycol)ethyl ether acetate.

39. (Previously Presented) The process according to claim 37, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of 100 to 250°C.

40. (Previously Presented) The process according to claim 31, wherein said aqueous fountain medium further contains an aprotic organic compound with a dielectric constant ≥ 15 .

41. (Previously Presented) The process according to claim 40, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of $\leq 150^\circ\text{C}$.

42. (Previously Presented) The process according to claim 31, wherein said fountain further comprises a non-ionic or anionic surfactant.

43. (Previously Presented) The process according to claim 31, wherein said fountain has a viscosity at 25°C after stirring to constant viscosity of 30 mPa.s as measured according to DIN 53211.

44. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further-comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least coloring, pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor or organic conductive or organo-metallic conductive properties, wherein said fountain further comprises a dye and/or a pigment, wherein a functional pattern of said dye and/or pigment is provided on said receiving medium, and wherein such that the color tone of the ink and color tone of the aqueous fountain medium cannot be distinguished by the human eye when applied onto [[a]] said receiving medium.

45. (Currently Amended) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein said fountain further-comprising comprises as a solution or a dispersion in said fountain medium at least one moiety having at least coloring, pH-indicating, whitening, fluorescent, phosphorescent, X-ray phosphor or organic conductive or organo-metallic conductive properties, wherein said fountain further comprises a dye and/or a pigment, wherein a functional pattern of said dye and/or pigment is provided on said receiving medium, and wherein such that the color tone of the ink and color tone of the aqueous fountain medium cannot be distinguished by the human eye when applied onto [[a]] said receiving medium.

46. (Previously Presented) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water, said fountain further

comprising as a solution or a dispersion in said fountain medium at least one moiety having at least whitening, fluorescent, phosphorescent, X-ray phosphor, or organic conductive or organo-metallic conductive properties.

47. (New) A process for the offset printing of a receiving medium with a functional pattern comprising in any order the steps of: applying a printing ink to a printing plate and wetting said printing plate with a fountain comprising a fountain medium comprising between 50% by weight and 100% by weight of water and at least one moiety having at least polymeric intrinsically conductive properties thereby providing said printing plate with an area inked with said printing ink and an area coated with said fountain, and transferring said printing ink and fountain onto said receiving medium, wherein a functional pattern of said at least one moiety is provided on said receiving medium.

48. (New) The process according to claim 47, wherein the fountain comprises at least one moiety having at least polymeric intrinsically conductive properties as a solution or dispersion in said fountain medium.

49. (New) The process according to claim 47, wherein said moiety having at least having at least polymeric intrinsically conductive properties is an intrinsically conductive polymer.

50. (New) The process according to claim 49, wherein said intrinsically conductive polymer is selected from the group consisting of polyanilines, polyaniline derivatives, polypyrroles, polypyrrole derivatives, polythiophenes and polythiophene derivatives.

51. (New) The process according to claim 49, wherein said intrinsically conductive polymer is a polymer or copolymer of a 3,4-dialkoxythiophene in which the two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

52. (New) The process according to claim 49, wherein said intrinsically conductive polymer is selected from the group consisting of: homopolymers of (3,4-

methylenedioxy-thiophene), (3,4-methylenedioxythiophene) derivatives, (3,4-ethylenedioxythiophene), (3,4-ethylenedioxythiophene) derivatives, (3,4-propylenedioxythiophene), (3,4-(propylenedioxythiophene) derivatives, (3,4-butylmethylenedioxythiophene) and (3,4-butylenedioxythiophene) derivatives and copolymers thereof.

53. (New) The process according to claim 47, wherein said aqueous fountain medium further comprises a polyanion.

54. (New) The process according to claim 53, wherein said polyanion is poly(styrenesulfonate).

55. (New) The process according to claim 47, wherein said aqueous fountain medium further comprises a di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound.

56. (New) The process according to claim 55, wherein said di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound is selected from the group consisting of 1,2-propandiol, propylene glycol, diethylene glycol, N-methyl pyrrolidinone and di(ethylene glycol)ethyl ether acetate.

57. (New) The process according to claim 47, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of 100°C to 250°C.

58. (New) The process according to claim 47, wherein said aqueous fountain medium further contains an aprotic organic compound with a dielectric constant ≥ 15 .

59. (New) The process according to claim 47, wherein said process further comprises heating said receiving medium within 10 minutes after printing to a temperature of $\leq 150^{\circ}\text{C}$.

60. (New) The process according to claim 47, wherein said fountain further comprises a non-ionic or anionic surfactant.

61. (New) The process according to claim 47, wherein said fountain has a viscosity at 25°C after stirring to constant viscosity of 30 mPa.s as measured according to DIN 53211.